

REMARKS

Claims 1-4 and 9-10 and 12 remain in this application. Amendments to claims 1-3 and 10 have been proposed to clarify those claims. These are editorial changes that do not raise new issues. Thus entry of these amendments to place these claims in condition for allowance or better form for appeal is proper.

The Examiner expresses the view that "to set the size of a pixel at the detection of said signal" described in claims 1 and 10 is different from the description in paragraph 156 of the specification. More specifically, the Examiner says that paragraph 156 states the pixel size denotes the size of pixel of an image which is formed from the signal obtained by the secondary electron detector 35 shown in Fig. 2 and therefore does not denote a size of pixel of a detected image. Further, the Examiner says that, if the pixel size of a displayed image is changed, the magnification of the displayed image inherently changes along with it.

Applicants do not disagree with this last statement. However, Applicant's do not agree that paragraph 156, when it speaks of pixel size is speaking of the pixel size on the monitor. Looking at Fig. 2, it can be seen that the secondary electrons strike the detector 35. The output of the detector will be an analog signal that is amplified and converted to a digital signal in A/D converter 37 from which after conversion it is transmitted to memory 81. This memory is coupled to an image processing circuit 82, which "stores images and compares the two images, thereby extracting a defect." (Paragraph 80). The pixel size at detection is the pixel size of this image. This is an image of the scanned area and will have a resolution based on pixel size. Subsequently this image is displayed on a monitor.

Thus, paragraphs 154 to 156 of the specification disclose structures which can designate the size of pixel of an image formed from a detected signal, i.e., the image of the scanned area to be compared and then displayed. Therefore, the present invention does not change pixel size of a displayed image. The process for designating the size of pixel is described in paragraphs 154 to 156. According to the description, an operator clicks "SEM low magnification" button 138 or "SEM high magnification button 139 in Fig. 13 to display a SEM image corresponding to the selected button. The operator observes the displayed SEM image and then when the operator wishes to observe a higher resolution power image, the operator clicks "Irradiating Conditions" button 134 in the option region 130 in Fig. 13 to display an irradiating condition display region 92 shown in Fig. 15. Then, the operator can designate the size of the pixel in a signal obtaining input region 94, as a result, a sample is illuminated with a charged particle beam and radiates

secondary electrons, and then the secondary electrons are detected to form an image with the designated size of the pixel.

To avoid confusion in leading one to think that the pixel size for the display is intended, Applicants have deleted "to be displayed on said monitor" in the last line of claim 1. This amendment makes it clear that the input device sets the size of a pixel at the detection of the signal to be displayed on the monitor and that the pixel size is that of the detected signal.

According to claims 2 and 3, after the end of the inspection, an image of one of the defects the operator hopes to display is again obtained and the image is displayed on the picture plane. This is supported in paragraphs 249 to 252. However, these paragraphs do not include the expression "to obtain a fine image." Thus, this language has been deleted.

The reference previously cited against these references discloses displaying an image obtained during inspection after the end of the inspection, but does not disclose obtaining an image by again irradiating the charged particle beam on the defect, as the in present invention. Therefore, Applicants consider that the present invention defines over the art, even with the expression "to obtain a fine image" deleted.

The features of claims 9 and 12 are supported by paragraph 295. The rejection of these claims is respectfully traversed.

Inokuchi discloses finding a position of a defect on the basis of an alignment mark. When the distance between the alignment mark and the defect is larger than the field of view of an SEM type inspection or observation apparatus using a charged particle beam, there is a difficulty in finding the defect according to the way taught by Inokuchi.

The other reference used by the Examiner, Nomoto, does not relate to the art of inspection of a semiconductor device, but discloses directly adding a mark to a defect position to facilitate the detection of defects. If a mark is directly added to the defect positions, it would be easy to find the defects, but it should be noted that it becomes impossible to observe a size and/or shape and other characteristics of the defect in order to analyze causes of defects occurring.

The Examiner says that claim 9 and 12 are unpatentable over Inokuchi in view of Nomoto. However, he fails to take into account that the present invention has the features and advantages described in paragraph 295. Neither the claimed features nor the advantages are

disclosed or suggested in Inokuchi or Nomoto, alone or in combination. Although the description of paragraph 295 does not mention the feature of the field of view, the limitation "means for establishing a mark at a location near to a position of the defect" in claims 9 and 12 distinguishes the present invention from Inokuchi and Nomoto. Applicants note that there is no suggestion in either reference to place the mark near the defect. What would motivate anyone to do this, other than Applicants' teaching? There is just nothing that leads one to combine these two references to obtain the claimed features, nor is it clear how one would combine them and get what is claimed.. One would be more likely to use the teaching of one or the other.

With entry of this amendment it is believed that all claims remaining in this application will be in condition for allowance. Thus, entry of this amendment and prompt notice of allowance is respectfully solicited. Alternatively, entry for purposes of appeal is respectfully requested.

In view of the above, all remaining claims are in condition for allowance, prompt notice of which is respectfully solicited.

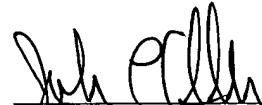
The Examiner is invited to contact the undersigned to discuss any matter concerning this application.

Applicants respectfully request a two month Extension of Time to respond to the Office Action of September 3, 2003. The extended period expires February 3, 2004.

The Office is hereby authorized to charge the fee of \$420.00 for a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) and any additional fees under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayment to Deposit Account No. 11-0600.

Respectfully submitted,

Date: February 3, 2004



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